IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Hu, et al.   Art Unit : 2129
Serial No. : 10/624,860   Examiner : Peter D. Coughlan
Filed : July 21, 2003   Conf. No. : 6527
Title : BUSINESS SOLUTION MANAGEMENT (BSM)

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

BRIEF ON APPEAL ON BEHALF OF APPELLANTS UNDER 37 C.F.R. § 41.37

Applicant : Hu, et al.
Serial No. : 10/624,860
Filed : July 21, 2003
Page : 2 of 32

Attorney Docket No.: 19797-0005001 / 2002P00234 US01

TABLE OF CONTENTS

Applicant : Hu, et al.
Serial No. : 10/624,860
Filed : July 21, 2003
Page : 3 of 32

Attorney Docket No.: 19797-0005001 / 2002P00234 US01

BRIEF ON APPEAL ON BEHALF OF APPELLANTS

In support of the Notice of Appeal filed August 14, 2008, appealing the Examiner's Final Rejection of each of Claims 1-3 and 5-31 mailed March 26, 2008, which appear in the attached Appendix A, Appellants hereby provide the following remarks.

Applicant : Hu, et al.
Serial No. : 10/624,860
Filed : July 21, 2003
Page : 4 of 32

Attorney Docket No.: 19797-0005001 / 2002P00234 US01

I. REAL PARTY IN INTEREST

The real party in interest in this appeal is SAP Aktiengesellschaft, the assignee of all right, title, and interest in the above-referenced application by way of Assignment recorded on September 2, 2004, at reel/frame 015103/0337.

Applicant : Hu, et al.
Serial No. : 10/624,860
Filed : July 21, 2003
Page : 5 of 32

Attorney Docket No.: 19797-0005001 / 2002P00234 US01

II.   RELATED APPEALS AND INTERFERENCES

There are no known related appeals and/or interferences.

Applicant : Hu, et al.
Serial No. : 10/624,860
Filed : July 21, 2003
Page : 6 of 32

Attorney Docket No.: 19797-0005001 / 2002P00234 US01

III. STATUS OF CLAIMS

Claims 1-3 and 5-31 are pending.

Claims 1-3 and 5-31 are under consideration.

Claim 4 has been cancelled.

Claims 1-3 and 5-31 stand rejected.

Claims 1, 25, and 29 are in independent form.

The final rejection of Claims 1-3 and 5-31 is being appealed. Claims 1, 25, and 29 are involved directly in the appeal. Claims 2-3, 5-24, 26-28, and 30-31 are not directly involved in the appeal but rather are involved only by virtue of their dependency from one of Claims 1, 25, or 29. Although, this indirect involvement by the dependent claims should not be interpreted as an admission or position that the dependents represent obvious modifications to the respective independent claim. Instead, Appellants believe that the dependents are allowable at least because the respective independent is allowable.

Applicant : Hu, et al.
Serial No. : 10/624,860
Filed : July 21, 2003
Page : 7 of 32

Attorney Docket No.: 19797-0005001 / 2002P00234 US01

IV. STATUS OF AMENDMENTS

Amendments to Claims 1, 3, 8, 25, and 29-31 were made by Appellants in response to the Final Office Action dated March 26, 2008 ("Office Action"). The Advisory Action dated July 14, 2008, indicated that these amendments would not be entered for purposes of appeal because the amendments "raise new issues that would require further consideration and/or search." Advisory Action at 2. Appellants respectfully disagree with this characterization of the amendments made to the aforementioned claims and submit that the amendments merely clarified language already present in the claims without altering the scope of the claims. For example, Appellants amended claim language in Claims 1, 3, 8, and 25 of "the business solution designed by the user" to "the user-designed business solution." Further, Appellants amended claim language in Claims 29-31 of "one or more machines" to "at least one machine." An additional amendment to Claim 29 merely clarified that "the business solution" maintained and modified was "the designed business solution" previously "[designed] . . . using the selected business process object, technology object, and user parameters." In short, Appellants respectfully submit that none of the unentered claim amendments made in response to the Office Action raise any new issues with respect to further consideration and/or search by the Examiner. Accordingly, Appellants submit that these amendments should have been entered prior to appeal.

Nevertheless, the pending claims presented on appeal do not include the aforementioned amendments but reflect Claims 1-3 and 5-31 as finally rejected by the Office Action of March 26, 2008.

Applicant : Hu, et al.
Serial No. : 10/624,860
Filed : July 21, 2003
Page : 8 of 32

Attorney Docket No.: 19797-0005001 / 2002P00234 US01

V. SUMMARY OF CLAIMED SUBJECT MATTER

Independent Claim 1 is drawn to a business solution management system of software including instructions stored in a computer readable medium (see, e.g., Application at [0009]; [0052]-[0053]),[1] a first data repository (see, e.g., id. at Figs. 1-3B; [0059]; [00114]-[00116]), and a second data repository (see, e.g., id.). The software allows a user to design a business solution with user parameters (see, e.g., id. at [0017]; [0064]-[0065]; [0071]-[0072]; [0077]; [0090]; [00180]-[00189]), instantiated user-selectable, pre-defined business objects (see, e.g., id. at Figs. 20A-20B; [0017]; [0053]; [00122]; [00268]-[00279]; [00315]), and instantiated user-selectable, pre-defined technology objects (see, e.g., id. at Figs. 29A-34B; [0017]; [0053]; [00280]-[00289]; [00315]). The software also allows a user to maintain and modify the business solution designed by the user subsequent to implementation of the business solution (see, e.g., id. at [0005]; [0082]; [00131]; [00133]-[00140]; [00218]; [00255]; [00557]-[00563]). The implementation is based, at least in part, on a current state of the business objects and the technology objects (see, e.g., id. at Figs. 23A-23B; [0091]-[0094]; [00509]). The software also persists the modified business solution for subsequent presentation through a graphical user interface (see, e.g., id. at Fig. 2; [0057]; [0064]-[0068]; [0079]; [0087]; [00211]-[00217]; [00469]). The first data repository includes the instantiated user-selectable, pre-defined business objects (see, e.g., id. at Figs. 3A-3B; [00279]). The second data repository includes the instantiated user-selectable, pre-defined technology objects (see, e.g., id. at Figs. 3A-3B; [00289]).

Independent Claim 25 is drawn to a computer-implemented method (see, e.g., Application at [0009]). The method includes the step of providing at least a first software application and a second software application (see, e.g., id. at Figs. 2-3; [0052]; [0070]; [0074]; [0088]). The first software application allows a user to design a business solution with user parameters, instantiated user-selectable, pre-defined business process objects (see, e.g., id. at Figs. 20A-20B; [0017]; [0053]; [0074]; [00122]; [00268]-[00279]; [00315]), and instantiated user-selectable, pre-defined technology objects (see, e.g., id. at Figs. 29A-34B; [0017]; [0053]; [0088]; [00280]-[00289]; [00315]). The second software application allows the user to maintain and modify the business solution subsequent to implementation of the business solution (see,

---

[1]   Citations to the Application are to U.S. Patent Application No. 10/624,860, as filed on July 21, 2003.

Applicant : Hu, et al.
Serial No. : 10/624,860
Filed : July 21, 2003
Page : 9 of 32

Attorney Docket No.: 19797-0005001 / 2002P00234 US01

e.g., id. at [0005]; [0082]; [00131]; [00133]-[00140]; [00218]; [00255]; [00557]-[00563]). The implementation is based, at least in part, on a current state of the business process objects and the technology objects (*see, e.g., id.* at Figs. 23A-23B; [0091]-[0094]; [00509]). At least one of the first or second software applications persists the modified business solution for subsequent presentation through a graphical user interface (*see, e.g., id.* at Fig. 2; [0057]; [0064]-[0068]; [0079]; [0087]; [00211]-[00217]; [00469]). The method also includes the step of providing the instantiated user-selectable, pre-defined business process objects to a first data repository (*see, e.g., id.* at Figs. 3A-3B; [00279]). The method further includes the step of providing the instantiated user-selectable, pre-defined technology objects to a second data repository (*see, e.g., id.* at Figs. 3A-3B; [00289]).

Independent Claim 29 is directed to an article comprising a machine-readable medium storing instructions operable to cause one or more machines to perform the following operations (*see, e.g.,* Application at [0009]; [0017]). The one or more machines prompt a user to select at least one instantiated business process object (*see, e.g., id.* at Figs. 20A-20B; [0017]; [0053]; [00122]; [00268]-[00279]; [00315]; [00475]-[00478]) and one instantiated technology object (*see, e.g., id.* at Figs. 29A-34B; [0017]; [0053]; [0088]; [00280]-[00289]; [00315]; [00475]-[00478]). The one or more machines receive user parameters (*see, e.g., id.* at [0053]; [0075]-[0078]; [00261]-[00266]). The one or more machines design a business solution using the selected business process object, technology object, and user parameters (*see, e.g., id.* at [0063]; [0072]-[0074]; [0077]; [0088]; [0094]). The one or more machines maintain and modify the business solution subsequent to implementation of the business solution (*see, e.g., id.* at [0005]; [0082]; [00131]; [00133]-[00140]; [00218]; [00255]; [00557]-[00563]), where the implementation is based, at least in part, on a current state of the business object and the technology object (*see, e.g., id.* at Figs. 23A-23B; [0091]-[0094]; [00509]). The one or more machines persist the modified business solution for subsequent presentation through a graphical user interface (*see, e.g., id.* at Fig. 2; [0057]; [0064]-[0068]; [0079]; [0087]; [00211]-[00217]; [00469]).

Accordingly, the present disclosure is directed to a business solution management (BSM) system, which in some implementations, includes software and services to allow a business entity to control an entire life cycle of a business solution (*e.g.,* a resolution of a business issue to

Applicant : Hu, et al.
Serial No. : 10/624,860
Filed : July 21, 2003
Page : 10 of 32

Attorney Docket No.: 19797-0005001 / 2002P00234 US01

promote growth and/or success of a business enterprise) from development, maintenance, management, enhancement, extension, and/or replacement. *See* Application at [0009]. Conventional BSM systems, which typically involve complex evaluation and identification of optimal business solutions, may be stand-alone and separate from software systems. *See id.* at [0006]-[0007]. Thus, such conventional solutions may be incapable and/or inefficient of managing and modifying such optimal business solutions according to, for example, business goals and objectives, business processes, advancing technologies, and/or a comprehensive knowledge base. *See id.* at [0007].

The system, method, and article of Claims 1, 25, and 29, respectively, can obviate these problems in certain implementations by providing a BSM system and software that allows a business enterprise to implement start-to-finish automated management of optimal business solutions; provide a roadmap and tools that can integrate a proposed business design and technology engineering activities; integrate business processes across multiple collaborating business enterprises; and support (*e.g.*, maintain and modify) the optimal business solutions according to the fluid goals, objectives, and knowledge of the business enterprise. For example, the BSM system according to Claims 1, 25, and 29 may utilize an object-oriented design to describe user-provided information, business components, and technology components as instantiated objects of various types. Such objects are utilized to design, implement, modify, and maintain one or more optimal business solutions through various stages of the business solution lifecycle (*e.g.*, design, development, implementation, and management). The implemented business solution may be stored or otherwise managed for subsequent presentation to the user.

Applicant : Hu, et al.
Serial No. : 10/624,860
Filed : July 21, 2003
Page : 11 of 32

Attorney Docket No.: 19797-0005001 / 2002P00234 US01

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1, 3, 7, 15, 20, 21, 25, 28, 29, 30 stand finally rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. This rejection is being appealed.

Claims 1-3 and 5-31 stand finally rejected under 35 U.S.C. § 101 for nonstatutory subject matter. This rejection is being appealed.

Claim 29 stands finally rejected under 35 U.S.C. § 102(b) as anticipated by "UML Distilled: A Brief Guide to the Standard Object Modeling Language," Martin Fowler and Kendall Scott (2d. ed. 1999) ("*Fowler*"). This rejection is being appealed.

Claims 1 and 25 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over *Fowler* in view of U.S. Patent Application Publication No. 2002/0174005 to Chappel ("*Chappel*"). This rejection is being appealed.

Claims 30 and 31 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over *Fowler* in view of U.S. Patent No. 6,339,832 to Bowman-Amuah ("*Bowman*"). This rejection is being appealed.

Claims 2, 3, 5-24, 26-28 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of *Fowler* and *Chappel* in view of *Bowman*. This rejection is being appealed.

VII.   ARGUMENT

A.   Section 112 Rejections

Claims 1, 3, 7, 15, 20, 21, 25, and 28-30 stand finally rejected for failing to comply with the enablement requirement of 35 U.S.C. § 112, ¶ 1. The test for enablement is whether "one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation." M.P.E.P. § 2164.01 (quoting *United States v. Telectronics, Inc.*, 857 F.2d 778, 785 (Fed. Cir. 1988)). Appellants respectfully submit that one of ordinary skill in the art could make and use the invention claimed and described in the present Application without undue experimentation, as set forth below.

1.   A Proper *Wands* Analysis Demonstrates That the Present Disclosure is Enabling With Regards to "Technology Objects."

With regards to the seven factors pertaining to undue experimentation, *see* M.P.E.P. § 2164.01(a), the Examiner first improperly limits the breadth of the claims by suggesting examples of business solution management systems directed to "manufacturing processes or solving abstract problems such as an algorithm for solving N-P complete problems." Office Action at 3. Such examples are neither recited in the claims nor required by the applicable patent laws or M.P.E.P. Further, the Examiner's determination that there is no nature of the invention, relying solely on the improper § 101 rejections, is incorrect. And the Examiner's improper characterization of the present claims — the Examiner's statement that "finding a solution" is connected to "technology objects"(*Id.*) — is equally incorrect. Instead, Claim 1, for instance, recites "software comprising instructions stored in a computer readable medium . . . *allowing a user to design a business solution with* user parameters, instantiated user-selectable, pre-defined business objects, and *instantiated user-selectable, pre-defined technology objects.*"

Regarding "technology objects," the Examiner suggests that there is "no explanation what is a 'technology object.'" Office Action at 3. Appellants respectfully disagree. For example, the present Application indicates that:

> All components, business processes, and technology solutions within the BSM system 101 may be constructed in an object-oriented concept. For instance, the BSM system 101 may implement a question and answer process represented by instances of an object type that are defined as "parameter objects" (described

below). Business components of a solution development effort may be defined as
"business object" types, as described below with reference to Business Process
Object Management 522 in Fig. 5B. Similarly, technology components utilized in
the BSM system 101 may be implemented as instances of a "technology object"
type. The complete object orientation of the BSM system 101 may achieve
maximum flexibility and reusability of all objects in the BSM system 101.

Application at [0053]. *See also* Fig. 1. Appellants respectfully submit that based on the above-
quoted portion of the Application as just one example, those of ordinary skill in the art would
understand "technology object" as this term is used within "an object-oriented concept," as noted
in the specification and claims.

As yet another example, the Application provides that "[a] Technology Object
Management function 524 may include standard pre-defined and pre-configured BSM
technology objects 314 (Figs. 3A-3B), creation of new technology objects, and management of
technology objects and instantiations." Application at [00281]. The technology objects 314
include several different categories of technology objects, such as "generic component objects,"
"generic integration objects," "solution component objects," "solution configuration objects,"
and "solution integration objects." *Id.* at [00282]-[00286]. "Generic component objects," for
example, are used to "identify general architectural components such as Lightweight Directory
Access Protocol (LDAP), Portal Content Management, [and] Demand Planning," among other
items. *Id.* at [00282]. Moreover, the present Application explicitly teaches that:

A "technology object" exists for each technology component and each
configuration structure in the architectural landscape. The attributes for the
components/structures are captured within the technology object. Thus, the
technology object clearly describes the functionality and its purpose in the
architecture, as well as other specific information.

Id. at [00288]. In short, the Examiner's rejection of Claims 1, 3, 7, 15, 20, 21, 25, and 28-30
under § 112 cannot withstand scrutiny when the express disclosure of the Application
demonstrates that "one reasonably skilled in the art could make or use the invention from the
disclosures in the patent coupled with information known in the art without undue
experimentation." M.P.E.P. § 2164.01.

The Examiner further asserts that "[s]ince there is no specific domain in which the invention can be employed, there exists no specific level of predictability in the art." Office Action at 3. Appellants respectfully assert that this particular contention ignores the language of the present claims and the disclosure within the Application. For instance, Appellants describe Figure 1 as a:

> a block diagram of a business solution management (BSM) system 101, which includes software and non-software business solution components. Software business solution components may include an applications/services platform 100 and an integration platform 110. The applications/services platform 100 may include services 102, applications 104, databases 106 and a data warehouse 108. The integration platform 110 may include portals 112, exchanges 114 and application servers 116. Non-software business solution components may include hardware and networks 120, business knowledge 126, solution consulting 128, technology knowledge 132 and business collaboration partners 134. The hardware and networks 120 may include architecture 122 and infrastructure 124.

Application at [0052]. *See also* Fig. 1. The embodiment of the invention described with reference to Figure 1, therefore, includes "software and non-software," including databases, servers, networks, as well as intangible components such as business knowledge and technology knowledge. That Claim 1, or indeed any claim in the Application is not (unnecessarily) limited to a single domain in which the invention can be deployed or employed does not indicate that there is no level of predictability in the art, but merely the flexibility and applicability of the invention. Further, the embodiment of the invention described above does not relate to an unpredictable art (*e.g.*, chemistry or physiology) but to "software and non-software." "The more that is known in the prior art about the nature of the invention, how to make, and how to use the invention, and the more predictable the art is, the less information needs to be explicitly stated in the specification." M.P.E.P. § 2164.03. Moreover, a "single embodiment may provide broad enablement in cases involving predictable factors, such as mechanical or electrical elements." *Id.* (citing *In re Vickers*, 141 F.2d 522, 526-27 (C.C.P.A. 1944)).

The Examiner further suggests that there "exists no working examples within the specification which clarifies [sic] how 'technology objects' are to be employed." Office Action at 4. Notwithstanding that the M.P.E.P. expressly instructs that "[t]he specification need not contain an example if the invention is otherwise disclosed in such manner that one skilled in the

Applicant : Hu, et al.
Serial No. : 10/624,860
Filed : July 21, 2003
Page : 15 of 32

Attorney Docket No.: 19797-0005001 / 2002P00234 US01

art will be able to practice it without an undue amount of experimentation," M.P.E.P. § 2164.02 (citing *In re Borkowski*, 422 F.2d 904, 908 (C.C.P.A. 1970)), Appellants respectfully suggest that the Examiner ignores portions of the Application that provide examples of the employment of "technology objects." As noted above:

> all components, business processes, and technology solutions within the BSM system 101 may be constructed in an object-oriented concept. For instance, the BSM system 101 may implement a question and answer process represented by instances of an object type that are defined as "parameter objects" (described below). . . . [T]echnology components utilized in the BSM system 101 may be implemented as instances of a "technology object" type.

Application at [0053]. In other words, the embodiment of the invention described above clearly indicates that in accordance with "an object-oriented concept," components of the business solution management system, including technology components and solutions, may be instantiated as "technology object" types in order to describe such components and solutions.

The Examiner further asserts that "[s]ince there are numerous applications in which the invention could be used the amount of experimentation would be enormous." Appellants explicitly traverse this holding and submit that the Examiner appears to confuse the breadth of *applications* an invention *may be applied to* with the test for enablement: whether the disclosure, when filed, contained sufficient information regarding the subject matter of the claims as to enable one skilled in the pertinent art to make and use the claimed invention. *See* M.P.E.P. § 2164.01. Indeed, that an invention such as a business solution management system may be used in a multitude of applications does not indicate a need for "enormous" experimentation for such uses and the Examiner fails to show any application for which undue experimentation would be necessary, to say nothing of "enormous" experimentation. Moreover, "[a]s long as the specification discloses at least one method for making and using the claimed invention that bears a reasonable correlation to the entire scope of the claim, then the enablement requirement of 35 U.S.C. 112 is satisfied." M.P.E.P. § 2164.01(b) (citing *In re Fisher*, 427 F.2d 833, 839 (C.C.P.A. 1970)). Appellants respectfully assert that the present Application discloses at least one method of making and using the claimed invention. *See, e.g.*, Application at [0052]-[0088]; Figs. 1-3B.

For at least the foregoing reasons, Appellants respectfully request that the § 112, ¶ 1 enablement rejections to Claims 1, 3, 7, 15, 20, 21, 25, and 28-30 should be overturned and those claims be allowed.

B.   Section 101 Rejections

1.   The Claims Are Drawn to Statutory Subject Matter.

Claims 1-3 and 5-31 stand finally rejected under 35 U.S.C. § 101 for containing nonstatutory subject matter. First, Appellants respectfully note that the Examiner appears to ignore previous claim amendments made, which satisfied the statutory test outlined in the M.P.E.P. The M.P.E.P. makes clear that "a claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory." M.P.E.P. § 2106.01(I). In accordance with the M.P.E.P.'s instruction, Claim 1 recites "software comprising instructions stored in a computer readable medium." Such a "tangible" medium is statutory subject matter. *See id.* The Application makes clear that a machine (or computer) readable medium "refers to any computer program product, apparatus and/or device (e.g., magnetic discs, optical disks, memory, Programmable Logic Devices (PLDs) used to provide machine instructions and/or data to a programmable processor, including a machine-readable medium that receives machine instructions as a machine-readable signal." Application at [00722].

Moreover, the § 101 rejections are improper in light of the express wording of the M.P.E.P. guidelines on the subject of statutory subject matter. For example, the M.P.E.P. instructs that the correct procedures to follow when determining if a claimed invention meets § 101's requirements include ensuring that "the claims define statutory subject matter (i.e., a process, machine, manufacture, composition of matter, or improvement thereof)." M.P.E.P. § 2107(II)(A)(2). As shown above, example Claim 1 defines statutory subject matter, namely, "software comprising instructions stored in a computer readable medium."

Further, the M.P.E.P. instructs that "[i]f the applicant has asserted that the claimed invention is useful for any particular practical purpose (i.e., it has a 'specific and substantial utility') and the assertion would be considered credible by a person of ordinary skill in the art, . .

Applicant : Hu, et al.
Serial No. : 10/624,860
Filed : July 21, 2003
Page : 17 of 32

Attorney Docket No.: 19797-0005001 / 2002P00234 US01

. a rejection based on lack of utility [should not be imposed]." *Id.* § 2107(II)(B)(1). The present Application indicates, for example, that a "'business solution' addresses or resolves internal and external business issues, and as a result, ***promotes growth and success of a business enterprise.***" Application at [0003]. Appellants respectfully submit that such a practical purpose, namely, promoting growth of a business enterprise by resolving issues encountered by the enterprise, satisfies the M.P.E.P. and § 101's requirement for a "practical purpose."

2. The Application Discloses Utility and a Practical Application

The Examiner also improperly suggests that the Application fails to disclose any utility or practical application. First, the Examiner fails to analyze the claims – which outline the invention – with respect to utility or practical application and instead selectively (and incorrectly) cites permissive language from the specification as supposed evidence of lack of utility. The Examiner then suggests some limiting language that could be used to demonstrate utility. But Appellants respectfully reject this approach because the permissive language merely demonstrates the breadth of the utility, not the supposed lack of such utility. Regardless, Appellants respectfully assert that the claims are directed to a useful and practical application and that one of ordinary skill in the art would recognize the specific and practical utility upon viewing the claims. It is well known that an "invention has a well-established utility if (i) a person of ordinary skill in the art would immediately appreciate why the invention is useful based on the characteristics of the invention (e.g., properties or applications of a product or process), and (ii) the utility is specific, substantial, and credible." M.P.E.P. § 2107(II)(A)(3). Based on the foregoing, the invention, which is defined in the claims, has a well-established and immediately apparent utility.

Indeed, independent Claims 1, 25, and 29 further provide for a practical application with a useful, concrete, and tangible result. Appellants respectfully submit that, for example, Claim 1 produces a useful, concrete, and tangible result via "persisting the modified business solution for subsequent presentation through a graphical user interface." The patent laws define patentable subject matter as "any new and useful process, machine, manufacture or composition of matter, or any new and useful improvement thereto." 35 U.S.C. § 101. When an abstract idea is reduced to a practical application, the abstract idea no longer stands alone if the practical application of

Applicant : Hu, et al.
Serial No. : 10/624,860
Filed : July 21, 2003
Page : 18 of 32

Attorney Docket No.: 19797-0005001 / 2002P00234 US01

the abstract idea produces a useful, concrete and tangible result and satisfies the requirements of 35 U.S.C. § 101. *See In re Alappat*, 33 F.3d 1526 (Fed. Cir. 1994); *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368, 1375 (Fed. Cir. 1998); *AT&T Corp. v. Excel Comm. Inc.*, 172 F.3d 1352, 1357 (Fed. Cir. 1999) (stating that as technology progressed, the C.C.P.A. overturned some of the earlier limiting principles regarding § 101 and announced more expansive principles formulated with computer technology in mind). *See also In re Musgrave*, 431 F.2d 882 (C.C.P.A. 1970) (cited by the Federal Circuit in *AT&T Corp.*, 172 F.3d at 1356). Indeed, a method or process remains statutory even if some or all of the steps therein can be performed in the human mind, with the aid of the human mind, or because it may be necessary for one performing the method or process to think. *See Musgrave*, 431 F.2d at 893. Thus, producing a useful, concrete, and tangible result is the key to patentability according to *State Street* and other applicable case law. The useful, concrete, and tangible result of Claim 1, namely, "persisting the modified business solution for subsequent presentation through a graphical user interface," satisfies the above-outlined requirements according to the controlling law.

Based on at least the foregoing, Appellants respectfully request that the rejections of Claims 1-3 and 5-31 under § 101 are improper and should be overturned.

3. The Use of Permissive Language in the Application Cannot Support Any Rejection Under § 101

The Examiner objects to the use of permissive language, such as the word "may," in describing certain aspects of the claimed subject matter within the specification. *See* Office Action at 5. Appellants disagree with this characterization of the language used in the Application, because use of the term "may" in the specification does not justify a rejection under 35 U.S.C. § 101.[2] Moreover, the suggestion in the Office Action that the specification must

---

[2] It is unclear whether the Examiner's complaint regarding permissive language supports the § 112 rejections, the § 101 rejections, or both. For example, in addition to the portion of the Office Action cited above with regards to the § 101 rejections, the Examiner further seems to imply that the § 112 enablement rejections are based on the use of permissive language. *See* Office Action at 35 (replying to Appellants' argument regarding the use of permissive language in conjunction with the § 112 rejections and stating that "[t]he problem is the specification is open ended and does not clearly define what is stated within the claim."). In any event, Appellants respectfully assert that such permissive language cannot support either statutory rejection and to the extent Appellants' arguments on this issue are directed to the § 101 rejections, they are also applicable to the § 112 rejections.

Applicant : Hu, et al.
Serial No. : 10/624,860
Filed : July 21, 2003
Page : 19 of 32

Attorney Docket No.: 19797-0005001 / 2002P00234 US01

make clear "the metes and bounds of what applicant considers unique to the invention" is inappropriate. The use of this term in the specification merely indicates that the described embodiments serve as examples – it is the claims that set forth the "invention." For example, the term "may" has been used in the present Application in the same manner as in numerous issued patents, including one of the references cited by the Office Actions in this case; *see, e.g.,* U.S. Patent No. 6,339,832 to Bowman at 2:25-27 ("In an aspect of the present invention, a typical response and a last resort response *may* be listed in the exception response table.") (emphasis added). The Examiner does not provide any statutory, caselaw, or M.P.E.P. support for this rejection use of the term "may" does not create a problem under § 101 in the present Application and Appellants request that all rejections or assertions based on this incorrect proposition be withdrawn.

C.   **Section 102 Rejection**

Claim 29 stands finally rejected under 35 U.S.C. § 102(b) as being anticipated by *Fowler*. But *Fowler* fails to teach, suggest, or disclose each and every element of Claim 29 as required.[3] *See* M.P.E.P. § 2131. Appellants therefore respectfully request that this rejection be overturned.

1.   ***Fowler* Fails to Teach or Suggest "prompting the user to select at least one instantiated business process object and one instantiated technology object"**

First, *Fowler* fails to teach "prompting the user to select at least one instantiated business process object and one instantiated technology object," as recited by Claim 29. The Examiner relies on *Fowler*'s disclosure of a "structural feature" and a "behavioral feature" to reject the claimed instantiated technology object and instantiated business process object, respectively. *See* Office Action at 7. Appellants note that *Fowler* generally describes the Unified Modeling Language (UML) and its capabilities. *See generally Fowler*. UML is a standardized specification language for object modeling used, for example, to create an abstract model of a system. Accordingly, there is no indication in *Fowler* that these "features" are, in fact, "objects," to say nothing of "instantiated objects." More particularly, *Fowler* describes "structural" and

---

[3]   As an initial matter, Appellants respectfully disagree with the Examiner's assertion that the "software" of Appellants, as recited in Claims 1 and 25, is equivalent to the Unified Modeling Language (UML). *See* Office Action at 8. Appellants submit that UML is not software but a standardized specification language for object modeling used, for example, to create an abstract model of a system.

"behavioral features" in the context of a UML meta-model, *i.e.*, a diagram that describes a notation. *See id.* at 4, Fig. 1-1. Appellants assert that neither the description of the UML meta-model in *Fowler*, nor the figure illustrating such a meta-model, teach, suggest, or describe a "business process object" or a "technology object," instantiated or otherwise.

Indeed, an "instantiated business process object" and an "instantiated technology object" are two distinct aspects of a business solution management system, method, or software, each describing distinct components of the business solution. *See, e.g.*, Application at [0053]. In contrast, Fig 1-1 of *Fowler* appears to indicate that both the "behavioral feature" and the "structural feature" are sub-components of a "feature," *i.e.*, they do not describe distinct components of a business solution (even assuming *arguendo* that *Fowler* teaches, suggests, or discloses a business solution, which Appellants dispute).

2. *Fowler* Fails to Teach or Suggest "maintaining and modifying the business solution"

As another example, *Fowler* further fails to teach "maintaining and modifying the business solution," as recited by Claim 29. The Examiner asserts that "objects that are set up and then left alone" in *Fowler*, thereby disclosing "maintaining and modifying the business solution." *See* Office Action at 11. Putting aside that there is no indication that the features (the so-called "objects") in *Fowler* are analogous to the claimed "business solution," *Fowler* expressly notes that objects are "not modified often, and when they are, *we can create them again.*" *Fowler* at 8 (emphasis added). In short, rather than teaching that the business solution may be modified as the Examiner asserts, *Fowler* indicates that the few objects that are modified are created anew, rather than modified.

3. The Examiner's Positions With Regards to *Fowler* Contradict Well-Established Patent Law Doctrine

In response to Appellants' position, the Examiner states that "there is no basis that the Applicant's [*sic*] argument that [*Fowler*] can not be used for designing a business solution." Advisory Action at 2. This position, which essentially requires the Appellants' to disprove the theory that *Fowler* can be used "for designing a business solution," is in contravention to: (1) the language of § 102, which places the burden on the Patent Office to show that an applicant is not

Applicant : Hu, et al.
Serial No. : 10/624,860
Filed : July 21, 2003
Page : 21 of 32

Attorney Docket No.: 19797-0005001 / 2002P00234 US01

entitled to a patent;[4] and (2) the requirement that a single § 102 reference show "each and every element as set forth in the claim." M.P.E.P. § 2131 (quoting *Verdegaal Bros. v. Union Oil Co. of Cal.*, 814 F.2d 628, 631 (Fed. Cir. 1987)). Indeed, it is well known that the identical invention must be shown in as complete detail as is contained in the claim. *See Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989). Further, the Examiner states that *Fowler*'s unified modeling language "can be used for various purposes, including 'business solutions.'" Advisory Action at 2.[5] Under this reasoning, *Fowler*'s applicability to claims of *any* application is *limitless*, even in situations as here, where *Fowler* fails to teach or disclose express limitations of the rejected claim. Such a position, as noted before, contradicts well-established patent law doctrine, which requires an anticipatory reference be enabling as to the claimed subject matter without undue experimentation. *See* M.P.E.P. § 2121.01. Neither the Office Action nor the Advisory Action provides an indication that *Fowler* is enabling to as to the subject matter of Claim 29, especially in view of the fact that *Fowler* is <u>silent</u> as to various claim limitations recited in Claim 29, as set forth above.

For at least the foregoing reasons, Appellants respectfully request the final rejection of Claim 29 in view of *Fowler* be overturned and that this claim and those depending therefrom be allowed.[6]

D. Section 103 Rejections

Claims 1 and 25 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over *Fowler* in view of *Chappel*. *Chappel*, however, fails to account for the deficiencies in *Fowler* described above with regard to certain aspects in amended Claims 1 and 25 that are analogous to those in Claim 29, such as "business process objects" and "technology objects."

---

[4] "A person **shall be entitled** to a patent unless . . . (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent . . . ." 35 U.S.C. § 102(a) (emphasis added).
[5] Here, it bears repeating that UML is a standardized modeling language used, for example, to create an abstract model of a system.
[6] Appellants respectfully dispute the Examiner's assertion that claims may be interpreted in their broadest reasonable sense. *See* Office Action at 41, ¶ 13. Claims must be read in "light of the specification as it would be interpreted by one of ordinary skill in the art." M.P.E.P. § 2111 (quoting *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004)). In other words, "[t]he broadest reasonable interpretation of the claims <u>must also be consistent</u> with the interpretation that those skilled in the art would reach." M.P.E.P. § 2111 (citing *In re Cortright*, 165 F.3d 1353, 1359 (Fed. Cir. 1999)) (emphasis added).

Chappel describes a use of statistical modeling and rules-based analysis methods to plan a business operation. *See Chappel* at [0020]-[0021]. *Chappel* further describes two databases, a source database 140 and rules database 145, to store business data and predetermined rules, respectively. *See id.* at [0026]. The Examiner seems to compare *Chappel*'s source database 140 and rules database 145 to the claimed first and second data repositories, respectively. But *Chappel*'s mere showing of some database, indeed even two databases, simply does not address the full language of the claimed repositories, namely, "a first data repository comprising the instantiated user-selectable, pre-defined business objects" and "a second data repository comprising the instantiated user-selectable, pre-defined technology objects," as recited by example Claim 1. For example, *Chappel* teaches that the rules database stores "predetermined rules used to process or analyze results from the statistical analysis performed by the software tools." *Id.* Further, *Chappel* teaches that the rules database "may include additional knowledge, facts and assertions, that is [sic] generated by the software tools." *Id.* Put another way, *Chappel*'s source database is not "a first data repository comprising the instantiated user-selectable, pre-defined business objects" and *Chappel*'s rules database is not "a second data repository comprising the instantiated user-selectable, pre-defined technology objects."

Accordingly, Appellants respectfully request that the final rejection of Claim 1 and all claims depending therefrom be overturned. Claim 25 includes certain aspects analogous to Claim 1. Therefore, Appellants respectfully request that the final rejection Claim 25 and all claims depending therefrom also be overturned.

Applicant : Hu, et al.
Serial No. : 10/624,860
Filed : July 21, 2003
Page : 23 of 32

Attorney Docket No.: 19797-0005001 / 2002P00234 US01

VIII. CONCLUSION

Appellants respectfully request the Honorable Board of Patent Appeals and Interferences to reverse the Examiner's rejections of Claims 1, 3, 7, 15, 20, 21, 25, 28, 29, 30 under 35 U.S.C. § 112, first paragraph, for failing to comply with the enablement requirement; Claims 1-3 and 5-31 under 35 U.S.C. § 101 for nonstatutory subject matter; Claim 29 under 35 U.S.C. § 102(b) over *Fowler*; Claims 1 and 25 under 35 U.S.C. § 103(a) over *Fowler* in view of *Chappel*; Claims 30 and 31 § 103(a) over *Fowler* in view of *Bowman*; and Claims 2, 3, 5-24, 26-28 § 103(a) over the combination of *Fowler* and *Chappel* in view of *Bowman*.

As discussed in detail above, the pending claims are directed to statutory subject matter and are enabled. Further, the prior art does not teach or suggest many of the features present in the various claims, and the Examiner has not sufficiently identified such features in the prior art. Accordingly, for at least the aforementioned reasons, Appellants respectfully request the Honorable members of the Board of Patent Appeals and Interferences to reverse the outstanding rejections in connection with the present application and permit each of Claims 1-3 and 5-31 to be passed to allowance.

Should there be any outstanding matters that need to be resolved in the present application, the undersigned is available at the number provided below.

All fees are being paid concurrently herewith on the Electronic Filing System (EFS) by way of Deposit Account authorization. Please apply all charges or credits to Deposit Account No. 06-1050, referencing the Attorney Docket Number above.

Respectfully submitted,

Date: October 28, 2008

/Thomas H. Reger II/
Thomas H. Reger II
Reg. No. 47,892

PTO Customer No. 32864
Fish & Richardson P.C.
1717 Main Street, Suite 5000
Dallas, Texas 75201
Telephone: (214) 292-4084
Facsimile: (214) 747-2091

APPENDIX OF CLAIMS

1.   A business solution management system comprising:

software comprising instructions stored in a computer readable medium, the software:

allowing a user to design a business solution with user parameters, instantiated user-selectable, pre-defined business objects, and instantiated user-selectable, pre-defined technology objects;

allowing a user to maintain and modify the business solution designed by the user subsequent to implementation of the business solution, the implementation based, at least in part, on a current state of the business objects and the technology objects; and

persisting the modified business solution for subsequent presentation through a graphical user interface;

a first data repository comprising the instantiated user-selectable, pre-defined business objects; and

a second data repository comprising the instantiated user-selectable, pre-defined technology objects.

2.   The business solution management system of Claim 1, the software comprising a portal layer, a software application layer, and a data repository layer associated with the first and second data repositories.

Applicant : Hu, et al.
Serial No. : 10/624,860
Filed : July 21, 2003
Page : 25 of 32

Attorney Docket No.: 19797-0005001 / 2002P00234 US01

3. The business solution management system of Claim 2, wherein the portal layer comprises at least first and second software agents, the software application layer comprising at least first and second software applications;

the first and second agents providing graphical user interfaces to the first and second software applications;

the first software application allowing the user to design the business solution with the user parameters, the instantiated user-selectable, predefined business objects and the instantiated user-selectable, pre-defined technology objects; and

the second software application allowing the user to maintain and modify the business solution designed by the user subsequent to implementation of the business solution.

5. The business solution management system of Claim 3, wherein the portal layer further comprises an interview module displaying questions to the user and receiving answers to at least one of the displayed questions from the user to be used by the first software application.

6. The business solution management system of Claim 2, at least a portion of the pre-defined business objects comprising pre-defined business process objects and wherein the software application layer comprises a business process engineer application receiving user parameters and designing business processes with the pre-defined business process objects.

7. The business solution management system of Claim 2, wherein the software application layer comprises a solution technology engineer application receiving user parameters and designing technology solutions with the pre-defined technology objects.

8. The business solution management system of Claim 3, wherein the data repository layer stores a plurality of business solutions, the second software application allowing the user to select at least one of the plurality of business solutions.

9.   The business solution management system of Claim 2, wherein the software application layer comprises a knowledge base management application allowing the user to maintain and modify a knowledge base.

10.   The business solution management system of Claim 2, wherein the software application layer comprises a project management application allowing the user to maintain and modify a project from a project repository associated with the data repository layer.

11.   The business solution management system of Claim 2, wherein the software application layer comprises an integrated implementation management application allowing the user to maintain and modify an integrated implementation from an implementation repository associated with the data repository layer.

12.   The business solution management system of Claim 2, wherein the software application layer comprises a methodology management application allowing the user to maintain and modify a methodology from a methodology repository associated with the data repository layer.

13.   The business solution management system of Claim 2, wherein the software application layer comprises a solution landscape management application allowing the user to maintain and modify a solution landscape from a landscape version repository associated with the data repository layer.

14.   The business solution management system of Claim 2, wherein the software application layer comprises a business process analyzer and a control object repository associated with the data repository layer.

Applicant : Hu, et al.
Serial No. : 10/624,860
Filed : July 21, 2003
Page : 27 of 32

Attorney Docket No.: 19797-0005001 / 2002P00234 US01

15. The business solution management system of Claim 6, wherein the software application layer further comprises a business process object management application and a technology object management application allowing the user to maintain and modify business process objects and technology objects.

16. The business solution management system of Claim 2, wherein the software application layer comprises a technology component identifier and a classification repository associated with the data repository layer.

17. The business solution management system of Claim 6, wherein the data repository layer stores a plurality of user-selectable solution determination structures, each solution determination structure having a plurality of parameters and solution determination procedures.

18. The business solution management system of Claim 17, wherein each solution determination procedure comprises control objects linked to routines.

19. The business solution management system of Claim 17, wherein the data repository layer stores a solution determination structure instantiation having a user-selectable initiative, business area, business process and business activity.

20. The business solution management system of Claim 17, wherein the solution determination structure instantiation is linked to a plurality of templates, the templates being linked to pre-defined business process objects and pre-defined technology objects.

21. The business solution management system of Claim 20, the templates comprising a solution template, a business object template, a technology object template, and a project template.

Applicant : Hu, et al.
Serial No. : 10/624,860
Filed : July 21, 2003
Page : 28 of 32

Attorney Docket No.: 19797-0005001 / 2002P00234 US01

22.   The business solution management system of Claim 17, wherein the software application layer provides a primary work area with active solution variants and inactive solution variants.

23.   The business solution management system of Claim 17, wherein the software application layer provides a primary work and an alternate work area.

24.   The business solution management system of Claim 2, further comprising an exchange infrastructure allowing applications in the software application layer to communicate with external applications.

25.   A computer-implemented method comprising:

providing at least a first software application and a second software application, the first software application allowing a user to design a business solution with user parameters, instantiated user-selectable, pre-defined business process objects, and instantiated user-selectable, pre-defined technology objects, and the second software application allowing the user to maintain and modify the business solution subsequent to implementation of the business solution, the implementation based, at least in part, on a current state of the business process objects and the technology objects, at least one of the first or second software applications persisting the modified business solution for subsequent presentation through a graphical user interface;

providing the instantiated user-selectable, pre-defined business process objects to a first data repository; and

providing the instantiated user-selectable, pre-defined technology objects to a second data repository.

26.   The method of Claim 25, further comprising providing a software application layer and an exchange infrastructure, the exchange infrastructure allowing applications in the software application layer to communicate with external applications.

27.   The method of Claim 25, further comprising providing a plurality of solution determination structures.

28.   The method of Claim 25, further comprising providing a plurality of user-selectable business process templates and user-selectable technology object templates.

Applicant : Hu, et al.
Serial No. : 10/624,860
Filed : July 21, 2003
Page : 30 of 32

Attorney Docket No.: 19797-0005001 / 2002P00234 US01

29.   An article comprising a machine-readable medium storing instructions operable to cause one or more machines to perform operations comprising:

prompting a user to select at least one instantiated business process object and one instantiated technology object;

receiving user parameters;

designing a business solution using the selected business process object, technology object, and user parameters;

maintaining and modifying the business solution subsequent to implementation of the business solution, the implementation based, at least in part, on a current state of the business object and the technology object; and

persisting the modified business solution for subsequent presentation through a graphical user interface.

30.   The article of Claim 29, wherein the instructions are operable to cause one or more machines to organize business process objects, technology objects, and user parameters in a linked structure.

31.   The article of Claim 29, wherein the instructions are operable to cause one or more machines to provide solution templates.

Applicant : Hu, et al.
Serial No. : 10/624,860
Filed : July 21, 2003
Page : 31 of 32

Attorney Docket No.: 19797-0005001 / 2002P00234 US01

Evidence Appendix

NONE

Applicant : Hu, et al.
Serial No. : 10/624,860
Filed : July 21, 2003
Page : 32 of 32

Attorney Docket No.: 19797-0005001 / 2002P00234 US01

Related Proceedings Appendix

NONE